

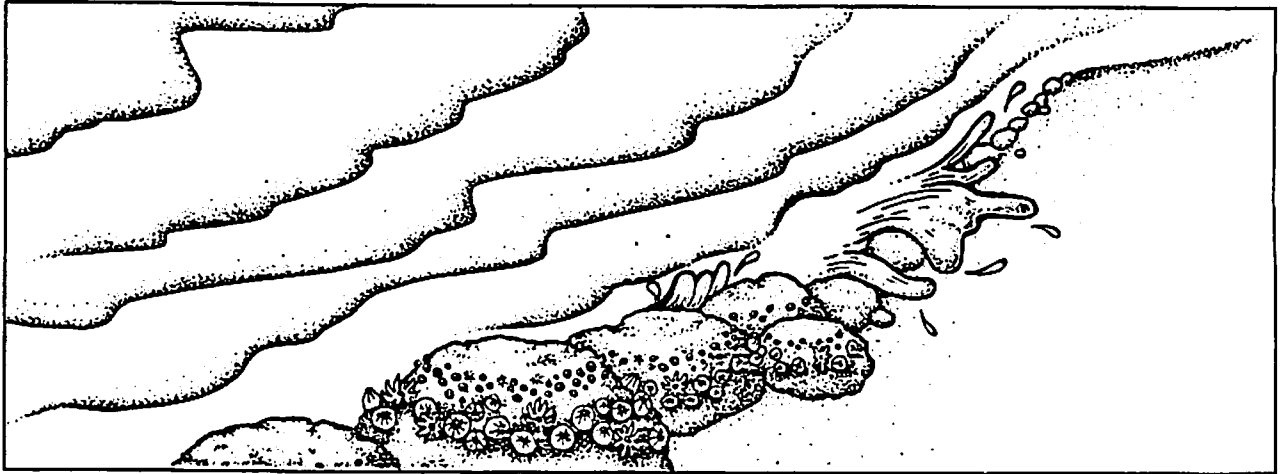
**A**ctivity

## Interactions Among Living Things

## CHAPTER

**1****Competition**

In this activity you will learn about two famous examples of competition. Read the descriptions. Then answer the questions that accompany each description.

**Example 1**

On the rocky coast of Scotland, the stones at the edge of the sea are striped by two layers of animals known as barnacles. Barnacles, which are relatives of crabs and shrimp, spend their entire adult lives attached to one spot. The narrow top layer consists of small brown barnacles with smooth shells. The wide bottom layer consists of large white barnacles with ridged shells. The story of these barnacles illustrates how competition can have a powerful effect on the size and location of a population in an ecosystem. Here's why: The small barnacles have the potential to live anywhere on the rock. However, the big barnacles crowd them out. The small barnacles can live only where the big ones cannot. Because of competition, the actual niche of the small barnacles is much narrower than their potential niche.

1. How does competition affect the size of the small-barnacle population?

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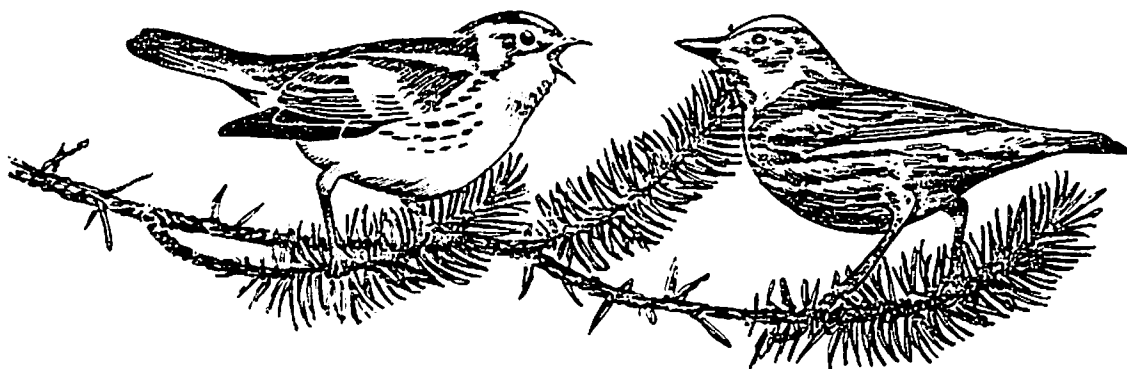
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2. How would the size and location of the small-barnacle population change if all the big barnacles were killed by a disease?

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### Example 2

Warblers are small, brightly colored insect-eating birds that live in spruce trees in Canada and the northeastern United States. During the winter, many warblers fly to more southern areas. As a result, a number of species of warblers may live and feed in the same forests.

Careful observation reveals that each species of warbler looks for food in only certain regions of the spruce tree. The Cape May warbler, for example, spends its time in the outermost branches at the very top of the tree. The yellow-rumped warbler, on the other hand, looks for food throughout the bottom third of the tree. The bay-breasted warbler stays for the most part in the middle branches of the tree.

3. Are the warblers sharing a niche? Explain. \_\_\_\_\_

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4. How does the behavior of the warblers relate to competition?

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5. How does the behavior enable five species of these birds to live in the same forest at the same time? Predict what would happen if this behavior did not exist.

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